

CLAIMS

1. A non-aqueous UV-curable ink composition for ink jet printing comprising a colorant, a UV-curable organic diluent and a surfactant
5 wherein the surfactant is selected from an acrylate-modified polydimethylsiloxane or a polyether-modified polydimethylsiloxane, said composition causing the loss of no more than 5% of the nozzles in an ink jet print head after 750 prints and providing a hole to area ratio of no more than 0.05.
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2. An ink composition as claimed in Claim 1 wherein the composition causes the loss of no more than 1% of the nozzles in an ink jet print head after 750 prints.
- 15 3. An ink composition as claimed in Claim 1 or Claim 2 wherein the composition provides a hole to area ratio of no more than 0.02.
4. An ink composition as claimed in any of the preceding claims wherein the composition provides a hole to area ratio of no more than
20 0.007.
5. An ink composition as claimed in any of the preceding claims comprising from about 0.01 to about 2 wt % surfactant.
- 25 6. An ink composition as claimed in any of the preceding claims comprising about 0.3 wt % surfactant.
7. An ink composition as claimed in any of the preceding claims wherein the surfactant is an acrylate-modified polydimethylsiloxane.

8. An ink composition as claimed in any of the preceding claims wherein the surfactant is an acrylate-modified polydimethylsiloxane having from twelve to eighteen dimethylsiloxane groups.
- 5 9. An ink composition as claimed in any of the preceding claims wherein the surfactant is an acrylate-modified polydimethylsiloxane having fifteen dimethylsiloxane groups.
- 10 10. An ink composition as claimed in any of the preceding claims wherein the surfactant is a tetraacrylate-modified polydimethylsiloxane.
11. An ink composition as claimed in Claim 10 wherein the surfactant is not further organo-modified.
- 15 12. An ink composition as claimed in any of the preceding claims wherein the surfactant is not polyether-modified.
- 20 13. A non-aqueous UV-curable ink composition for ink jet printing comprising a colorant, a UV-curable organic diluent and a surfactant wherein the surfactant is a block copolymeric tetraacrylate-modified polydimethylsiloxane having fifteen dimethylsiloxane units.
- 25 14. An ink composition as claimed in any of the preceding claims wherein the surfactant is Addid[®] 300.
15. An ink composition as claimed in any of Claims 1 to 6 wherein the surfactant is a polyether-modified polydimethylsiloxane.
- 30 16. An ink composition as claimed in Claim 15 wherein the surfactant is BYK[®]-333.

17. An ink composition as claimed in any of the preceding claims consisting essentially of:

about 1 to about 10 wt % colorant;

5 about 15 to about 50 wt % dispersant system (based on amount of colorant);

about 75 to about 95 wt % UV-curable organic diluent;

about 0.01 to about 2 wt % surfactant; and

about 3 to about 20 wt % photoinitiator,

wherein the total amount of these components equates to 100 wt %.

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18. An ink composition substantially as hereinbefore described with reference to the accompanying Examples.

19. An ink jet printing ink cartridge containing an ink composition as
15 claimed in any of the preceding claims.

20. A method of producing a printed substrate comprising ink jet printing the substrate with an ink composition as claimed in any of Claims 1 to 18 and then exposing the substrate to UV-radiation.

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21. A method as claimed in Claim 20 wherein the substrate is packaging containing a foodstuff.

22. A method as claimed in Claim 20 wherein the substrate is a web of
25 foodstuff packaging material upstream of packaging formation.